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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.             | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------------------|------------------|
| 10/615,317  | 07/08/2003  | Joseph S. Stam       | AUTO 218                        | 9360             |
| 28167   | 7590        | 11/10/2005           | EXAMINER<br>GAGLIARDI, ALBERT J |                  |
| BRIAN J. REES<br>GENTEX CORPORATION<br>600 NORTH CENTENNIAL STREET<br>ZEELAND, MI 49464 |             |                      | ART UNIT<br>2884                | PAPER NUMBER     |

DATE MAILED: 11/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

HA

|                              |  |                                    |  |
|------------------------------|--|------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/615,317   | <b>Applicant(s)</b><br>STAM ET AL. |  |
|                              | <b>Examiner</b><br>Albert J. Gagliardi | <b>Art Unit</b><br>2884            |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) 1-25, 28-31, 39, 40 and 47-60 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 26, 27, 32-38 and 41-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group VII (claims 26-27, 32-38, 41-46) in the reply filed on 13 October 2005 is acknowledged. The traversal is on the ground(s) that: (1) all claims are directed to a vehicular vision system including at least an image sensor; (2) there is no evidence that the subcombination is not essential to the combination; and (3) no additional search is required.

This is not found persuasive because: (1) even though all claims may include at least an image sensor, such a limitation is not in and of itself a patentable feature – those skilled in the art appreciate that image sensors are notoriously well known; (2) there is evidence that the subcombination is not essential to the combination – the elected subcombination (i.e., a light source operating in synchronization with the image sensor) is not even mentioned in some of the independent claims (i.e., claims 5, 10, etc.) and therefore cannot be relied upon for patentability in those claims; and (3) an additional search is required since search for the Group III invention (claim 7 for example) would require an additional search for at least an image array with uniquely filtered pixels and a control system for acquiring signals from such uniquely filtered pixels).

Note: in a phone conversation with James Shultz, Jr. on 7 November 2005 it was agreed that the inclusion of claim 47 in Group VII was a typographical error and was not considered as included in the elected Group VII invention.

Note: upon review of the claims, the examiner considers that filter of claim 44 more properly relates to the narrow pass filter of claim 37 of the Group VII invention as opposed to the attenuating filter of Groups II and III, for example, and has been treated accordingly.

2. Applicant's election with traverse of species 1 is noted, but is moot in view of the election of the invention of Group VII which does not include claims directed to the control system and the related species.

3. The requirement is still deemed proper and is therefore made FINAL.

4. Claims 1-25, 28-31, 39-40 and 47-60 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention and/or species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 13 October 2005.

#### ***Information Disclosure Statement***

5. Where the IDS citations are submitted but not described, the examiner is only responsible for cursorily reviewing the references. The initials of the examiner on the PTO-1449 indicate only that degree of review unless the reference is either applied against the claims, or discussed by the examiner as pertinent art of interest, in a subsequent office action. See Guidelines for Reexamination of Cases in View of *In re Portola Packaging, Inc.*, 110 F.3d 786, 42 USPQ2d 1295 (Fed. Cir. 1997), 64 FR at 15347, 1223 Off. Gaz. Pat. Office at 125 (response to comment 6). Consideration by the examiner of the information submitted in an IDS means that the examiner will consider the documents in the same manner as other documents in Office search files are considered by the examiner while conducting a search of the prior art in a proper field of search. The initials of the examiner placed adjacent to the citations on the PTO-1449 or

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PTO/SB/08A and 08B or its equivalent mean that the information has been considered by the examiner to the extent noted above.

The examiner notes that due to the unusually large number of references cited, and the absence of any description of the relevance of the references, it should be assumed that only the most cursory review of the cited documents consistent with these guidelines has been performed. If applicant is aware of any information that might be of particular relevance, it should be pointed out in order to insure a higher degree consideration.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 26-27, 33, 35-38, 41 and 44-46 are rejected under 35 U.S.C. 102(e) as being anticipated by Holtz *et al.* (US 6,552,342 B2).

Regarding claim 26, Holtz discloses (Fig. 1) a vehicular vision system, comprising an image sensor (3) and a light source (2), said light source is configured to emit light rays in the non-visible spectrum (col. 3, lines 27-30) to illuminate objects within a scene external to a controlled vehicle beyond an exterior surface of a windshield (see generally Fig. 1), wherein said light source is configured to operate in synchronous relationship with acquisition of images from said image sensor (col. 3, lines 56-61).

Regarding claim 27, *Holtz* discloses that the vehicular vision system may be configured for use in obstacle detection (see generally col. 1, lines 9-21).

Regarding claim 33, *Holtz* discloses that the light source is a narrow band emitter (col. 4, lines 7-9).

Regarding claim 35, *Holtz* discloses that the light source emits in the range from approximately 780nm to approximately 1100nm (col. 3, lines 28-30 and col. 4, lines 58-61).

Regarding claim 36, *Holtz* discloses that the light source is pulsed with momentary energy levels that exceed a one hundred percent duty cycle (see generally Fig. 2 comparing pulsed laser and continuous (i.e., one hundred percent duty cycle) laser).

Regarding claim 37 and 38, *Holtz* discloses that the image sensor further comprising a narrow band pass spectral filter (F) placed between said scene and said image sensor (see generally fig. 4; col. 4, lines 22-24).

Regarding claim 41, *Holtz* discloses that the light source is a near infrared laser (col. 3, lines 27-30).

Regarding claim 44, *Holtz* discloses that the in some embodiments the spectral filter may be a movable shutter (filter wheel) (col. 4, lines 58-61).

Regarding claim 45, *Holtz* discloses that the vehicular vision system may be configured for use in obstacle detection (see generally col. 1, lines 9-21).

Regarding claim 46, *Holtz* discloses that the spectral filter located between said image sensor and the scene is configured to block light rays other than the predominant spectral band of the light rays emitted by the source (col. 4, lines 22-24 and 58-63).

***Claim Rejections - 35 USC § 103***

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8. Claims 32, 34, 42-43 and are rejected under 35 U.S.C. 103(a) as being unpatentable over *Holtz*.

Regarding claim 32 and 34, although *Holtz* discloses that the light source is preferably a laser diode source, those skilled in the art appreciate that the use of a wide variety of sources including both broadband sources including a filter and narrow band sources such as LEDs are well known and viewed as functionally equivalent light sources for use in vehicle vision systems, which, and absent some degree of criticality, would have been a matter of routine design choice within the skill of a person of ordinary skill in the art depending on the needs of the particular application.

Regarding claims 42-43, although *Holtz* discloses that the light source is preferably a laser diode source, those skilled in the art appreciate that the use of a wide variety of sources are well known in the art including for example discharge type sources such as high intensity discharge lamps. Those skilled in the art additionally appreciate that such sources typically include an AC ballast configured to strike an arc with high intensity. It would be obvious to synchronize the arc with the image sensor since *Holtz* discloses that the source is synchronized with the image sensor (see claim 26 above).

### ***Conclusion***

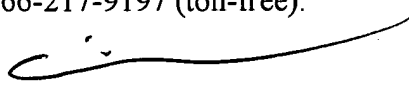
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert J. Gagliardi whose telephone number is (571) 272-2436. The examiner can normally be reached on Monday thru Friday from 10 AM to 6 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Albert J. Gagliardi  
Primary Examiner  
Art Unit 2884

AJG